



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Rosalie A. Centeno
Rosalie A. Centeno Secretary

In the Application of Alfred Reinhold

Ser.No.: 10/717,300

Filed: November 19, 2003

For: MICROFOCUS X-RAY APPARATUS

Commissioner of Patents

Alexandria, Virginia 22313-1450

INFORMATION DISCLOSURE STATEMENT

In accordance with 37 CFR § 1.56, Applicant wishes to call the attention of the Examiner to the following references:

- 1) US 4,344,013
- 2) EP 0 815 582
- 3) WO 96/29723
- 4) DE 322 22 511

Reference 1 is in the English language and therefore needs no further discussion as to its relevance.

Reference 2 discloses x-ray equipment for enlarging radiographic short-time recordings, a focused electron beam for the production of X-radiation (16) impinges on the retarding material of a target (23). In this case, the retarding material in the focal spot (22)

passes over into the liquid aggregate state due to the high thermal loading. For this reason, the equipment is operated in pulsed operation, wherein the position of the focal spot (22) on the target (23) is, when each loading occurs, displaced relative to the previous position. The retarding material is arranged in a retarding layer (32) on a carrier layer (33) and the electron beam (16) impinges on the retarding layer (32) oriented perpendicularly to the electron beam (16). A control interrupts the irradiation at the latest when the carrier layer (33) starts to melt.

Reference 3 has an abstract that is in the English language and therefore needs no further discussion as to its relevance.

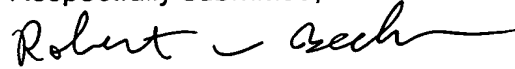
Reference 4 discloses that, in an X-ray tube having a glow cathode for emitting an electron beam, an anode, focusing and deflecting coils and a target in an evacuated envelope, the cathode is a U-bent filament the dimensions of which are large in relation to the electron emitting area. The cathode is heated by passing electric current through it and is differentially cooled so that a small surface area at the site of electron emission is at a substantially higher temperature than remaining surface areas of the cathode. Cooling is effected by a thick-walled cylindrical grid which surrounds the cathode and has at its outer end an annular inward projection which absorbs heat rays from the cathode. The grid has a funnel-shaped outer end surface having an included angle of about 100 DEG to 140 DEG . The electron-emitting surface of the cathode lies approximately in a plane defined by the inner peripheral edge of the funnel-shaped end surface of the grid. The electric field applied to the cathode has its highest value at the small electron emitting surface of the cathode.

Copies of the listed documents are submitted herewith along with the form PTO-1449.

It is respectfully requested that any fees required and not enclosed herewith or any shortages in any fees be charged to Deposit Account 02-1653.

Consideration of the foregoing in relation to this application is respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Robert W. Becker", with a long horizontal flourish extending to the right.

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Enclosures



INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Complete if Known	
		Application Number	10/717,300
		Filing Date	November 19, 2003
		First Named Inventor	Alfred Reinhold
		Group Art Unit	
		Examiner Name	
		Attorney Docket No.	970/003

U. S. PATENT DOCUMENTS							
Examiner Initials	Cite No.	Patent Number Pub. Number	Issue Date Pub. Date	Patentee	Class	Subclass	Filing Date
	1	4,344,013	8/10/1982	Ledley			7/27/1981

FOREIGN PATENT DOCUMENTS							
Examiner Initials	Cite No.	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes No
	2	EP 0 815 582	07 Jan 1998	Europe			X
	3	WO 96/29723	26 Sep 1996	WIPO			X
	4	DE 32222511	22 Dec 1983	Germany			X

OTHER PRIOR ART & NON PATENT LITERATURE DOCUMENTS		
Examiner Initials	Cite No.	

Examiner		Date	
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2/10/2004